

**Annex-1**  
**MAXIMUM ACCEPTABLE AMOUNTS OF UNWANTED SUBSTANCES IN FEEDS**

**Chapter 1- Inorganic Contaminants and Nitrogenous Compounds**

Unwanted substances	Products used as animal feed	Maximum Acceptable Amount mg/kg (ppm) (According to the feed containing 12% moisture)
(1)	(2)	(3)
1. Arsenic ( <sup>1</sup> )	Feedstuffs; except for the followings:	2
	- Flour obtained from herbs, dried clover and dried alfalfa and dried sugar beet pulp and dried molasses sugar beet pulp.	4
	- Palm kernel meal (expeller).	4 ( <sup>2</sup> )
	- Phosphates and calcareous marine algae.	10
	- Calcium carbonate, calcium and magnesium carbonate. ( <sup>10</sup> )	15
	- Magnesium oxide and magnesium carbonate.	20
	-Fish and other aquatic animals and feeds obtained from the processing thereof.	25 ( <sup>2</sup> )
	-Seaweed flour and feedstuffs obtained from seaweed.	40 ( <sup>2</sup> )
	The iron particles used as marker	50
	Additives included in the trace element compounds functional group; except for the followings:	30
- Copper sulphate pentahydrate, copper carbonate, di-copper chloride trihydroxide and iron carbonate.	50	
- Zinc oxide, manganese oxide and copper oxide.	100	
Complementary feeds; except for the followings:	4	
-Mineral feeds.	12	
- Complementary feed of pets and ornamental animals including the products obtained from the fish and other aquatic animals and processing thereof and containing seaweed flour and feedstuffs obtained from seaweed:	10 ( <sup>2</sup> )	
-Long-term use formulation of feeds with special feeding purpose whose trace element concentration is more than 100 times from the maximum amount set out for the complete feed.	30	
Complete feeds; except for the followings:	2	
- Complete feeds for fish and fur animals.	10 ( <sup>2</sup> )	
- Complete feed of pets and ornamental animals including the products obtained from the fish and other aquatic animals and the products obtained from processing thereof and containing seaweed flour and feedstuffs obtained from seaweed.	10 ( <sup>2</sup> )	

2. Cadmium	Vegetable feedstuffs	1
	Animal feedstuffs	2
	Mineral feedstuffs; except for the followings::	2
	-Phosphate	10
	Additives included in the trace element compounds functional group; except for the followings:	10
	- Copper oxide, manganese oxide, zinc oxide and manganese sulphate monohydrate.	30
	Additives included in the binders and anti-caking agents functional group.	2
	Premixes <sup>(6)</sup>	15
	Complementary feeds; except for the followings:	0,5
	-Mineral feeds: - the feed containing less than 7% phosphorus <sup>(8)</sup> - the feed containing 7% and more phosphorus <sup>(8)</sup>	5  0.75 for every 1% phosphorus <sup>(8)</sup> (up to 7.5 maximum)
Complementary feeds for pets and ornamental animals	2	
Long-term use formulation of feeds with special feeding purpose whose trace element concentration is more than 100 times from the maximum amount set out for the complete feed.	15	
Complete feeds; except for the followings:	0,5	
-Complete feeds for cattle (excluding calves), sheep (except for lambs), goats (except for kids) and fish.	1	
- Complete feeds for pets and ornamental animals.	2	
3. Fluorine <sup>(7)</sup>	Feedstuffs; except for the followings:	150
	-Animal feedstuffs, except for marine shellfish such as marine krill.	500
	- Marine shellfish such as krill.	3000
	- Phosphates.	2000
	- Calcium carbonate, calcium and magnesium carbonate <sup>(10)</sup>	350
	- Magnesium oxide	600
	- Calcareous marine algae.	1000
	Vermiculite (E 561)	3000
	Complementary feeds:	
	- the feed containing less than and 4% phosphorus <sup>(8)</sup> - the feed containing more than 4% phosphorus <sup>(8)</sup>	500  125 for every 1% phosphorus <sup>(8)</sup>

	Complete feeds; except for the followings:	150
	- Complete feed of swine.	100
	- Complete feed of poultry (except for chicks) and fish.	350
	- Complete feed of chicks.	250
	- Complete feed of cattle, sheep and goats;	
	- Dairy feed.	30
	- Other.	50
4. Lead <sup>(12)</sup>	Feedstuffs; except for the followings:	10
	- Coarse fodders <sup>(3)</sup>	30
	- Phosphates and calcareous marine algae.	15
	- Calcium carbonate, calcium and magnesium carbonate <sup>(10)</sup>	20
	-Yeasts	5
	Additives included in the trace element compounds functional group; except for the followings:	100
	- Zinc oxide.	400
	- Manganese oxide iron carbonate, copper carbonate.	200
	Additives included in the binders and anti-caking agents functional group; except for the followings:	30
	- Volcanic clinoptilolite, natrolite- phonolite.	60
	Premixes <sup>(6)</sup>	200
	Complementary feeds; except for the followings:	10
	-Mineral feeds.	15
	-Long-term use formulation of feeds with special feeding purpose whose trace element concentration is more than 100 times from the maximum amount set out for the complete feed.	60
	Complete feeds	5
5. Mercury <sup>(4)</sup>	Feedstuffs; except for the followings:	0,1
	- Fish and other aquatic animals and feeds obtained from the processing thereof.	0,5
	- Calcium carbonate, calcium and magnesium carbonate <sup>(10)</sup>	0,3
	Compound feeds (Complementary and complete); except for the followings:	0,1
	- Mineral feeds.	0,2
	- Compound feeds for fish.	0,2
	- Compound feeds for dogs, cats and fur animals.	0,3

6. Nitrites <sup>(5)</sup>	Feedstuffs; except for the followings:	15
	-Fish meal	30
	- Silage	-
	Products and by-products derived from the production of starch and from the sugar beet and sugar cane.	-
	Complete feeds; except for the followings:	15
Complete feeds of cats and dogs whose moisture content exceeding 20%.	-	
7.Melamine <sup>(9)</sup>	Feeds except for the followings:	2,5
	Canned feed of pets and ornamental animals.	2,5 <sup>(11)</sup>
	Following additives:	
	-Guanidine acetic acid (GAA)	-
	-Urea	-
-Bi-urea	-	

(1) The maximum level is the total amount of arsenic.

(2) Inorganic arsenic must be less than 2 ppm.

(3) Coarse fodders include the hay, silage, fresh grass and similar products used as animal feed.

(4) The maximum level is the total amount of mercury.

(5) The maximum level is expressed as sodium nitrite.

(6) It is the maximum level of premixes which do not create sensitivity to lead and cadmium for different animal species and which are formed by taking into account the additives containing high levels of lead and cadmium. Premix manufacturers are responsible for providing the usege information of premixes according to maximum levels for complete and complementary feeds in accordance with the maximum level of premixes specified in the legislation of feed additives.

(7) The maximum level is the analysis result of fluoride.

(8) The percentage of phosphorus is associated with the feed having 12% moisture content.

(9) The maximum level is only for melamine. Cyanuric acid, ammeline and ammeline in the maximum level is taken into account in the next step.

(10) Calcium and magnesium carbonate correspond to the natural mixture of calcium carbonate and magnesium carbonate as mentioned in the Feedstuffs Catalogue.

(11) The maximum limit is applied for the canned feed of pets and ornamental animals put on the market.

(12) The maximum level for the determination of lead in the kaolinitic clay and in the feed containing kaolinitic clay means the determination of lead by using analysis method. Here, the extraction is performed in nitric acid (5% w/w) for 30 minutes at boiling temperature. Similar extraction procedures can be applied provided that it has been demonstrated that their effectiveness is the same.

## Chapter 2-Mycotoxins

Unwanted substances	Products used as animal feed	Maximum Acceptable Amount mg/kg (ppm) (According to the feed containing 12% moisture)
(1)	(2)	(3)
1. Aflatoxin B1	Feedstuffs	0,02
	Complementary and complete feeds; except for the followings:	0,01
	-Compound feeds of dairy cattle and calves, dairy sheep and lambs, dairy goats and kids, piglets and young poultry.	0,005
	-Compound feeds of cattle (except for dairy cattle and calves), sheep (except for dairy sheep and lambs), goats (except for dairy goats and kids), pigs (except for piglets), poultry (except for young poultry).	0,02
2. Rye Ergot	Feedstuffs and compound feeds containing whole grains.	1000
3. Deoxynivalenol	Feedstuffs:	
	-Cereals and cereal by-products except for maize by-products.	8
	-Maize by-products.	12
	Complete and complementary feeds; except for the followings: - Complete and complementary feeds of swine. - Complete and complementary feeds of lambs, kids and calves younger than 4 months.	5 0,9 2
4. Zearalenone	Feedstuffs:	
	-Cereals and cereal by-products except for maize by-products.	2
	-Maize by-products.	3
	Complete and complementary feeds:	
	- Complete and complementary feeds of piglets and young brood pigs.	0,1
	- Complete and complementary feeds of brood pigs and fattening pigs. - Complete and complementary feeds of goats as well as calves, dairy cattle, lambs and including sheep and kids.	0,25 0,5
5. Ochratoxin A	Feedstuffs:	
	- Cereals and cereal products.	0,25
	Complete and complementary feeds: - Complete and complementary feeds of swine. - Complete and complementary feeds of poultry.	0,05 0,1
6. Fumonisin (B1+B2)	Feedstuffs:	
	- Maize and maize products.	60
	Complete and complementary feeds:	
	- Pigs, equidae, rabbits and pets and ornamental animals.	5
	-Fish. - Poultry, lambs, kids and calves younger than 4 months. - Adult ruminants older than 4 months and mink.	10 20 50

### Chapter 3- Plant Toxins

Unwanted substances	Products used as animal feed	Maximum Acceptable Amount mg/kg (ppm) (According to the feed containing 12% moisture)
(1)	(2)	(3)
1. Free Gossypol	Feedstuffs; except for the followings:	20
	- Cotton seed.	5000
	- Cottonseed oil meal (pressing or extraction).	1200
	Complete feeds; except for the followings:	20
	- Complete feeds of cattle except for calves.	500
	- Complete feeds of sheep and goats except for lambs and kids.	300
2. Hydrocyanic acid	- Complete feeds of calves and poultry (except for laying hens)	100
	- Complete feeds of rabbits, lambs, kids and swine (except for piglets)	60
	Feedstuffs; except for the followings:	50
	- Flax seed	250
	- Flax seed oil meal	350
	- Cassava products and almond oil meal.	100
3. Theobromine	Complete feeds; except for the followings:	50
	- Complete feeds of poultry younger than 6 weeks.	10
	Complete feeds; except for the followings:	300
	- Complete feeds for swine.	200
4. Vinylthiooxazolidone (5-vinyl oxazolidine -2-tion)	- Complete feeds for dogs, rabbits, horses and fur animals.	50
	Complete feeds of poultry; except for the followings:	1000
	- Complete feeds of laying hens.	500
5. Volatile mustard oil <sup>(1)</sup>	Feedstuffs; except for the followings:	100
	Camelina seed and products obtained from therefrom <sup>(2)</sup> , products obtained from mustard seed <sup>(2)</sup> , rapeseed and products obtained from therefrom.	4000
	Complete feeds; except for the followings:	150
	- Complete feeds of cattle (excluding calves), sheep (except for lambs) and goats (except for kids).	1000
	- Complete feeds of poultry and swine (except for piglets).	500

<sup>(1)</sup> Maximum limits are expressed as allyl isothiocyanate.

<sup>(2)</sup> Upon request of competent authorities, responsible operator should make an analysis showing that the total amount of glycosylates is lower than 30 mmol / kg. Reference analysis method is EN-ISO 9167-1:1995.

**Chapter 4- Organochlorine compounds (Except for dioxins and PCBs)**

<b>Unwanted substances</b>	<b>Products used as animal feed</b>	<b>Maximum Acceptable Amount mg/kg (ppm) (According to the feed containing 12% moisture)</b>
(1)	(2)	(3)
1. Aldrin <sup>(1)</sup>	Feedstuffs and compound feeds; except for the followings: - Oils - Compound feed for fish.	0,01 <sup>(2)</sup> 0,1 <sup>(2)</sup> 0,02 <sup>(2)</sup>
2. Dieldrin <sup>(1)</sup>	Feedstuffs and compound feeds; except for the followings: - Oils - Compound feed for fish.	0,01 <sup>(2)</sup> 0,1 <sup>(2)</sup> 0,02 <sup>(2)</sup>
3. Camphechlor (toxaphene) CHB 26, 50 and 62 etc. total indicator <sup>(3)</sup>	Fish, other aquatic animals and materials obtained from thereof; except for the followings: -Fish oil. - Complete feeds of fish.	0,02 0,2 0,05
4.Chlordane (The total of cis and trans isomers of chlordane and oxychlordane; referred to as chlordane)	Feedstuffs and compound feeds; except for the followings: - Oils	0,02 0,05
5.DDT (The total of DDT, DDD,(or TDE) and DDE isomers, referred to as DDT)	Feedstuffs and compound feeds; except for the followings: - Oils	0,05 0,5
6. Endosulphone (The total of endosulphone sulphate and alpha and beta isomers, referred to as endosulphone).	Feedstuffs and compound feeds; except for the followings: - Maize and the products obtained from the processing of maize. - Oil seeds and the products obtained from the processing thereof except for raw oil. - Vegetable raw oil. - Complete feeds of fish except for salmon. - Complete feeds of salmon.	0,1 0,2 0,5 1,0 0,005 0,05
7. Endrin (The total of endrin and delta-ketoi-endrin, referred to as endrin).	Feedstuffs and compound feeds; except for the followings: - Oils	0,01 0,05
8. Heptachlore (The total of heptachlore and heptachlorepoxyde, referred to as heptachlore).	Feedstuffs and compound feeds; except for the followings: - Oils	0,01 0,2
9. Hexachlorobenzene (HCB)	Feedstuffs and compound feeds; except for the followings: - Oils	0,01 0,2

10. Hexachlorocyclohexan (HCH)		
- alpha isomers	Feedstuffs and compound feeds; except for the followings: - Oils	0,02 0,2
- beta isomers	Feedstuffs; except for the followings: - Oils Compound feeds; except for the followings: - Compound feeds of dairy cattle.	0,01 0,1 0,01 0,005
- gama isomers	Feedstuffs and compound feeds; except for the followings: - Oils	0,2 2,0

(<sup>1</sup>) It is referred to as dieldrin individually or in combination.

(<sup>2</sup>) The maximum amount of aldrin and dieldrin referred to as dieldrin individually or in combination.

(<sup>3</sup>) According to the numbering system of Parlar or CHB: CHB 26: 2-endo,3-exo,5-endo,6-exo,8,8,10,10-octochlorobornane, CHB 50: 2-endo,3-exo,5-endo,6-exo,8,8,9,10,10-nonachlorobornane, CHB 62: 2,2,5,5,8,9,9,10,10-nonachlorobornane.

#### Chapter 5- Dioxins and PCBs

Unwanted substances	Products used as animal feed	Maximum Acceptable Amount As ng WHO-PCDD/ F-TEQ/kg (ppt) ( <sup>1</sup> ) (According to the feed containing 12% moisture)
(1)	(2)	(3)
1. Dioxins (The total of polychlorinated dibenzo-para- dioxins (PCDDs) and polychlorinated dibenzo- furans (PCDFs). It is referred to as the amount of toxic equivalence by using TEFs value-2005 (toxic equivalency factors) by World Health Organization-WHO ( <sup>2</sup> ).	Vegetable feedstuffs; except for the followings:	0,75
	-Vegetable oils and by-products.	0,75
	-Mineral feedstuffs.	0,75
	Animal feedstuffs:	
	- Animal oils including milk fat and egg oil.	1,50
	- Other land animal products including milk and dairy products, eggs and egg products.	0,75
-Fish oil.	5,0	
- Fish, other aquatic animals and products obtained from thereof except for fish oil, fish protein hydrolyzates containing more than 20% fat and shellfish flour( <sup>3</sup> ).	1,25	
- Fish protein hydrolyzates containing more than 20% fat and shellfish flour.	1,75	

	Sedimentary-originated clinoptilolite and synthetic calcium aluminates, natrolite phonolite, vermiculite, calcium sulphate dihydrate, kaolinitic clay included in the binders and anti-caking additives functional group.	0,75
	- Additives included in the trace element compounds functional groups.	1,0
	- Premixes	1,0
	- Compound feeds; except for the followings:	0,75
	- Compound feeds of fish and pets and ornamental animals.	1,75
	- Compound feeds of fur animals.	-
<b>Unwanted substances</b>	<b>Products used as animal feed</b>	<b>Maximum Acceptable Amount As ng WHO-PCDD/ F-PCB-TEQ/kg (ppt) (¹) (According to the feed containing 12% moisture)</b>
2. The total of dioxins and dioxin-like PCBs. (The total of polychlorinated dibenzo-para- dioxins (PCDDs) and polychlorinated dibenzo-furans (PCDFs) and dioxin-like polychlorinated biphenyls (dl-PCBs). It is referred to as the amount of toxic equivalence by using TEFs value-2005 (toxic equivalency factors) by World Health Organization-WHO).(²)	Vegetable feedstuffs; except for the followings:	1,25
	-Vegetable oils and by-products.	1,5
	Mineral feedstuffs.	1,0
	Animal feedstuffs:	
	- Animal oils including milk fat and egg oil.	2,0
	- Other land animal products including milk and dairy products, eggs and egg products.	1,25
	-Fish oil.	20,0
	- Fish, other aquatic animals and products obtained from thereof except for fish oil and fish protein hydrolyzates containing more than 20% fat (³).	4,0
	- Fish protein hydrolyzates containing more than 20% fat.	9,0
	-Sedimentary-originated clinoptilolite and synthetic calcium aluminates, natrolite phonolite, vermiculite, calcium sulphate dihydrate, kaolinitic clay included in the binders and anti-caking additives functional group.	1,5
	-Additives included in the trace element compounds functional groups.	1,5
	- Premixes	1,5
	Compound feeds; except for the followings:	1,5
- Compound feeds of fish and pets and ornamental animals.	5,5	
- Compound feeds of fur animals.	-	

<b>Unwanted substances</b>	<b>Products used as animal feed</b>	<b>Maximum Acceptable Amount µg/kg(ppb) <sup>(1)</sup> (According to the feed containing 12% moisture)</b>
3. The total of non-dioxin-like PCBs ( PCB 28, PCB52, PCB 101, PCB 138, PCB 153 and PCB 180 (ICES-6) <sup>(1)</sup> )	Vegetable feedstuffs.	10
	Mineral feedstuffs.	10
	Animal feedstuffs:	
	- Animal oils including milk fat and egg oil.	10
	- Other land animal products including milk and dairy products, eggs and egg products.	10
	-Fish oil.	175
	- Fish, other aquatic animals and products obtained from thereof except for fish oil and fish protein hydrolyzates containing more than 20% fat <sup>(4)</sup> .	30
	- Fish protein hydrolyzates containing more than 20% fat.	50
	-Sedimentary-originated clinoptilolite and synthetic calcium aluminates, natrolite phonolite, vermiculite, kaolinitic clay included in the binders and anti-caking additives functional group.	10
	-Additives included in the trace element compounds groups.	10
- Premixes	10	
Compound feeds; except for the followings:	10	
- Compound feeds of fish and pets and ornamental animals.	40	
- Compound feeds of fur animals.	-	

<sup>(1)</sup>The level of upper limit is calculated by assuming that all values pertaining to different likes (polychlorinated biphenyls (PCB)) under the detection limit will be equal to the detection limit.

<sup>(2)</sup> TEF table (=toxic equivalency factors) for dioxins, furans and dioxin-like PCBs: International Programme on Chemical Safety expert meeting held in Geneva in June 2005 - according to human risk assessment results of World Health Organization-WHO-TEFs (Martin van den Berg et al., the 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Toxicological Sciences 93(2), 223–241 (2006)).

<b>The like</b>	<b>TEF Value</b>	<b>The like</b>	<b>TEF Value</b>
<b>Dibenzo-para- dioxins ('PCDDs') and Dibenzo-para-furans (PCDFs)</b>		<b>Dioxin-like PCBs: Non-ortho PCBs + Mono-ortho PCBs</b>	
2,3,7,8-TCDD	1		
1,2,3,7,8-PeCDD	1	<b>Non-ortho PCBs</b>	
1,2,3,4,7,8-HxCDD	0,1	PCB 77	0,0001
1,2,3,6,7,8-HxCDD	0,1	PCB 81	0,0003
1,2,3,7,8,9-HxCDD	0,1	PCB 126	0,1
1,2,3,4,6,7,8-HpCDD	0,01	PCB 169	0,03

OCDD	0,0003		
		<b>Mono-ortho PCBs</b>	
2,3,7,8-TCDF	0,1	PCB 105	0,00003
1,2,3,7,8-PeCDF	0,03	PCB 114	0,00003
2,3,4,7,8-PeCDF	0,3	PCB 118	0,00003
1,2,3,4,7,8-HxCDF	0,1	PCB 123	0,00003
1,2,3,6,7,8-HxCDF	0,1	PCB 156	0,00003
1,2,3,7,8,9-HxCDF	0,1	PCB 157	0,00003
2,3,4,6,7,8-HxCDF	0,1	PCB 167	0,00003
1,2,3,4,6,7,8-HpCDF	0,01	PCB 189	0,00003
1,2,3,4,7,8,9-HpCDF	0,01		
OCDF	0,0003		

Abbreviations used; 'T' = tetra; 'Pe' = penta; 'Hx' = hexa; 'Hp' = hepta; 'O' = octa; 'CDD' = chlorodibenzodioxin; 'CDF' = chlorodibenzofuran; 'CB' = chlorobiphenyl.

(3) The maximum level does not apply in the production of feed for fur animals, in fresh fish used directly without being subjected to any process and in other aquatic animals. The maximum dioxin level in fresh fish used directly for feeding zoo animals, circus animals and pets and ornamental animals; 3,5 ng WHO-PCCD/F TEQ/kg product for the total dioxin - 6,5 ng WHO-PCCD/F-PCB-TEQ/kg product for the total dioxin and dioxin-like PCB – in fish liver 20,0 ng WHO-PCCD/F-PCB-TEQ/kg product for the maximum total dioxin and dioxin-like PCB. The products produced from the fur animals, pets and ornamental animals, zoo animals and circus animals or processed animal proteins can not be given to farm animals raised, grown or fed for food production.

(4) The maximum level does not apply in the production of feed for fur animals, in fresh fish used directly without being subjected to any process and in other aquatic animals. The maximum level of similar PCBs of the non-dioxin in fresh fish used directly for feeding zoo animals, circus animals and pets and ornamental animals is 75 µg/kg and it is 200µg/kg in fish liver. The products produced from the fur animals, pets and ornamental animals, zoo animals and circus animals or processed animal proteins can not be given to farm animals raised, grown or fed for food production.

#### Chapter 6- Harmful Botanical Contamination

Unwanted substances	Products used as animal feed	Maximum Acceptable Amount mg/kg (ppm) (According to the feed containing 12% moisture)
(1)	(2)	(3)
1. Weed seeds and unground and unfragmented fruits containing alkaloids, glycosides and other toxic substances separately or together.	Feedstuffs and compound feeds.	3000
Datura sp.		1000

2. <i>Crotalaria</i> spp.	Feedstuffs and compound feeds.	100
3. The pods and seeds of <i>Ricinus communis</i> L., <i>Croton tiglium</i> L. and <i>Abrus precatorius</i> L. and their derivatives processed separately or together <sup>(1)</sup> .	Feedstuffs and compound feeds.	10 <sup>(2)</sup>
4. The fruit of unshelled beech (beech tree) - <i>Fagus silvatica</i> L.	Feedstuffs and compound feeds.	Seeds and fruits of such plants and their processed products can be found in feeds in trace amounts which can not be measured.
5. <i>Purghera</i> ( <i>Jatropha curcas</i> L.)	Feedstuffs and compound feeds.	Seeds and fruits of such plants and their processed products can be found in feeds in trace amounts which can not be measured.
6. <i>Ambrosia</i> spp. seeds	Feedstuffs except for the followings:  -Seeds of maize ( <i>Panicum miliaceum</i> L.) and sorghum ( <i>Sorghum bicolor</i> (L) Moench s.l.) not used directly in animal nutrition.  - Compound feeds containing whole grain and seeds.	50  200  50
7. Seeds of the followings;  - Indian mustard – <i>Brassica juncea</i> (L.) Czern and Coss. ssp. <i>intergrifolia</i> (West.) Thell.  - Sareptian mustard – <i>Brassica juncea</i> (L.) Czern ve Coss. ssp. <i>Juncea</i>  - Chinese mustard– <i>Brassica juncea</i> (L.) Czern and Coss. ssp. <i>juncea</i> var. <i>lutea</i> Batalin  - <i>Sinapis nigra</i> – <i>Brassica nigra</i> (L.) Koch  - Ethiopia mustard – <i>Brassica carinata</i> A. Braun	Feedstuffs and compound feeds.	Seeds can be found in feeds in trace amounts which can not be measured.

<sup>(1)</sup> Determined by microscopic analysis.

<sup>(2)</sup> It includes also the seed coat fragments.

**Chapter 7-** Maximum Amount of Approved Feed Additives whose transportation to non-target feeds can not be prevented.

Unwanted substances	Products used as animal feed <sup>(1)</sup>	Maximum Acceptable Amount mg/kg (ppm) (According to the feed containing 12% moisture)
(1)	(2)	(3)
1. Decoquinat	Feedstuffs	0,4
	Compound feeds produced for the following animals  - Laying poultry and laying chickens older than 16 weeks.  - Broilers in pre-slaughtering period when the use of decoquinat is prohibited.  - Other animal types.	0,4  0,4  1,2
	Premixes used in feeds in which the use of decoquinat is prohibited.	(2)
	2. Diclazuril	Feedstuffs
Compound feeds produced for the following animals:  - Laying poultry and laying chickens older than 16 weeks.  -Fattening and breeding rabbits in pre-slaughtering period when the use of diclazurilin is prohibited.  - Other animal types except for laying chickens younger than 16 weeks, broilers, guinea fowl and broiler turkeys.		0,01  0,01  0,03
Premixes used in feeds in which the use of diclazuril is not permitted.		(2)
3. Halofuginone hidrobromide		Feedstuffs
	Compound feeds produced for the following animals:  -Laying poultry, laying chickens older than 12 weeks and turkey poults.	0,03
	-Broilers in pre-slaughtering period when the use of halofuginone hidrobromide is prohibited and turkeys younger than 12 weeks.  - Other animal types.	0,03  0,09

	Premixes used in feeds in which the use of halofuginone hidrobromide is not permitted.	( <sup>2</sup> )
4. Lasalocid A sodium	Feedstuffs	1,25
	Compound feeds produced for the following animals:	
	- Dogs, calves, rabbits, equidae, dairy animals, laying poultry, turkeys (older than 16 weeks) and laying chickens (older than 16 weeks).	1,25
	- Broilers in pre-slaughtering period when the use of Lasalocid A sodium is prohibited, laying chickens younger than 16 weeks and turkeys younger than 16 weeks.	1,25
	- Pheasant, guinea fowl, quail and partridge (except for laying poultry) in pre-slaughtering period when the use of Lasalocid A sodium is prohibited.	1,25
	- Other animal types.	3,75
	- Premixes used in feeds in which the use of Lasalocid A sodium is not permitted.	( <sup>2</sup> )
5. Maduramicin ammonium alpha	Feedstuffs	0,05
	Compound feeds produced for the following animals:	
	-Equidae, rabbits, turkeys older than 16 weeks, laying poultry and laying chickens older than 16 weeks.	0,05
	- Broilers in pre-slaughtering period when the use of maduramicin ammonium alpha is prohibited and turkeys younger than 16 weeks.	0,05
	- Other animal types.	0,15
	-Premixes used in feeds in which the use of maduramicin ammonium alpha is not permitted.	( <sup>2</sup> )
6. Monensin sodium	Feedstuffs	1,25

	<p>Compound feeds produced for the following animals:</p> <p>-Equidae, dogs, small ruminants (sheep and goats), ducks, cattle, dairy cattle, laying poultry, laying chickens older than 16 weeks and turkeys older than 16 weeks.</p> <p>- Broilers in pre-slaughtering period when the use of monensin sodium is prohibited, laying chickens younger than 16 weeks and turkeys younger than 16 weeks.</p> <p>- Other animal types.</p>	<p>1,25</p> <p>1,25</p> <p>3,75</p>
	Premixes used in feeds in which the use of monensin sodium is not permitted.	( <sup>2</sup> )
7. Narasin	Feedstuffs	0,7
	<p>Compound feeds produced for the following animals:</p> <p>-Turkeys, rabbits, equidae, laying poultry and laying chickens older than 16 weeks.</p> <p>- Other animal types.</p>	<p>0,7</p> <p>2,1</p>
	Premixes used in feeds in which the use of narasin is not permitted.	( <sup>2</sup> )
8. Nicarbazin	Feedstuffs	1,25
	<p>Compound feeds produced for the following animals</p> <p>- Equidae, laying poultry and laying chickens older than 16 weeks.</p> <p>- Other animal types.</p>	<p>1,25</p> <p>3,75</p>
	Premixes used in feeds in which the use of nicarbazin (alone or together with narasin) is not permitted.	( <sup>2</sup> )
9. Robenidine hydrochloride	Feedstuffs	0,7
	<p>Compound feeds produced for the following animals:</p> <p>-Laying poultry and laying chickens older than 16 weeks.</p> <p>-Broilers, fattening and breeding rabbits and turkeys in pre-slaughtering period when the use of robenidine hydrochloride is prohibited.</p>	<p>0,7</p> <p>0,7</p>

	- Other animal types.  Premixes used in feeds in which the use of robenidine hydrochloride is not permitted.	2,1  ( <sup>2</sup> )
10. Salinomycin sodium	Feedstuffs	0,7
	Compound feeds produced for the following animals:  -Equidae, turkeys, laying poultry and laying chickens older than 12 weeks.	0,7
	- Broilers in pre-slaughtering period when the use of salinomycin sodium is prohibited, laying chickens younger than 12 weeks and broiler rabbits.	0,7
	- Other animal types.	2,1
	Premixes used in feeds in which the use of salinomycin sodium is not permitted.	( <sup>2</sup> )
11. Semduramicin sodium	Feedstuffs	0,25
	Compound feeds produced for the following animals  - Laying poultry and laying chickens older than 16 weeks.	0,25
	- Broilers in pre-slaughtering period when the use of semduramicin sodium is prohibited.	0,25
	- Other animal types.	0,75
	Premixes used in feeds in which the use of semduramicin sodium is not permitted.	( <sup>2</sup> )

(<sup>1</sup>) It is evaluated separately from the limits permitted under the Regulation on Feed Additives Used in Animal Feeding.

(<sup>2</sup>) When the maximum level of the unwanted substances in premix is added to the feed according to the instruction manual of the premix, it is at a level not exceeding the 50% of the maximum level of the said unwanted substances determined for this feed in this Communiqué.

**Annex-2**  
**INTERVENTION THRESHOLD VALUES**

**Chapter: Dioxins and PCBs**

Unwanted substances	Products used as animal feed	Intervention threshold value according to the feed containing 12% moisture (ng WHO-PCDD/F-TEQ/kg (ppt)) <sup>(2)</sup>	Thoughts and additional information (Such as the nature of research to be done)
(1)	(2)	(3)	(4)
<p>1.Dioxins (The total of polychlorinated dibenzo-para- dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs). It is referred to as the amount of toxic equivalence by using TEFs value-2005 (toxic equivalency factors) by World Health Organization-WHO <sup>(1)</sup>)</p>	Vegetable feedstuffs; except for the followings:  -Vegetable oils and by-products.	0,5  0,5	(3)  (3)
	Mineral feedstuffs.	0,5	(3)
	Animal feedstuffs:  Animal oils including milk fat and egg oil.	0,75	(3)
	Other land animal products including milk and dairy products, eggs and egg products.	0,5	(3)
	Fish oil.	4,0	(4)
	Fish, other aquatic animals and products and by-products obtained from thereof except for fish oil, fish protein hydrolyzates containing more than 20% fat and crustacean flour.	0,75	(4)
	Fish protein hydrolyzates containing more than 20% fat; crustacean flour.	1,25	(4)
	Additives included in the binders and anti-caking agents functional group.	0,5	(3)
	Additives included in the trace element compounds functional group.	0,5	(3)
Premixes	0,5	(3)	

	- Compound feeds; except for the followings:	0,5	( <sup>3</sup> )
	- Feeds of fish and pets and ornamental animals.	1,25	( <sup>4</sup> )
	- Compound feeds of fur animals.	-	
2. The total of dioxin-like PCBs. (The total of polychlorinated biphenyls (PCBs) specified in the toxic equivalence of World Health Organization). It is referred to as the amount of toxic equivalence by using TEFs value-2005 (toxic equivalency factors) by World Health Organization-WHO). ( <sup>1</sup> )	Vegetable feedstuffs; except for the followings:	0,35	( <sup>3</sup> )
	-Vegetable oils and by-products.	0,5	( <sup>3</sup> )
	Mineral feedstuffs.	0,35	( <sup>3</sup> )
	Animal feedstuffs:		
	Animal oils including milk fat and egg oil.	0,75	( <sup>3</sup> )
	Other land animal products including milk and dairy products, eggs and egg products.	0,35	( <sup>3</sup> )
	Fish oil.	11,0	( <sup>4</sup> )
	Fish, other aquatic animals and products obtained from thereof except for fish oil, fish protein hydrolyzates containing more than 20% fat. ( <sup>3</sup> )	2,0	( <sup>4</sup> )
	- Fish protein hydrolyzates containing more than 20% fat.	5,0	( <sup>4</sup> )
	Additives included in the binders and anti-caking agents functional group.	0,5	( <sup>3</sup> )
	Additives included in the trace element compounds functional group.	0,35	( <sup>3</sup> )
	Premixes		
	- Compound feeds; except for the followings:	0,35	( <sup>3</sup> )
	0,5	( <sup>3</sup> )	
- Compound feeds of fish and pets and ornamental animals.	2,5	( <sup>4</sup> )	
- Compound feeds of fur	-		

	animals.		
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(<sup>1</sup>) TEF table (=toxic equivalency factors) for dioxins, furans and dioxin-like PCBs: International Programme on Chemical Safety expert meeting held in Geneva in June 2005 - according to human risk assessment results of World Health Organization-WHO-TEFs (Martin van den Berg et al., the 2005 World Health Organization Re-evaluation of Human and Mammalian Toxic Equivalency Factors for Dioxins and Dioxin-like Compounds. Toxicological Sciences 93(2), 223–241 (2006)).

The like	TEF Value	The like	TEF Value
<b>Dibenzo-para- dioxins ('PCDDs') and Dibenzo-para-furans (PCDFs)</b>		<b>Dioxin-like PCBs: Non-ortho PCBs + Mono-ortho PCBs</b>	
2,3,7,8-TCDD	1		
1,2,3,7,8-PeCDD	1	<b>Non-ortho PCBs</b>	
1,2,3,4,7,8-HxCDD	0,1	PCB 77	0,0001
1,2,3,6,7,8-HxCDD	0,1	PCB 81	0,0003
1,2,3,7,8,9-HxCDD	0,1	PCB 126	0,1
1,2,3,4,6,7,8-HpCDD	0,01	PCB 169	0,03
OCDD	0,0003		
		<b>Mono-ortho PCBs</b>	
2,3,7,8-TCDF	0,1	PCB 105	0,00003
1,2,3,7,8-PeCDF	0,03	PCB 114	0,00003
2,3,4,7,8-PeCDF	0,3	PCB 118	0,00003
1,2,3,4,7,8-HxCDF	0,1	PCB 123	0,00003
1,2,3,6,7,8-HxCDF	0,1	PCB 156	0,00003
1,2,3,7,8,9-HxCDF	0,1	PCB 157	0,00003
2,3,4,6,7,8-HxCDF	0,1	PCB 167	0,00003
1,2,3,4,6,7,8-HpCDF	0,01	PCB 189	0,00003
1,2,3,4,7,8,9-HpCDF	0,01		
OCDF	0,0003		

Abbreviations used; 'T' = tetra; 'Pe' = penta; 'Hx' = hexa; 'Hp' = hepta; 'O' = octa; 'CDD' = chlorodibenzodioxin; 'CDF' = chlorodibenzofuran; 'CB' = chlorobiphenyl.

(<sup>2</sup>) The level of upper limit is calculated by assuming that all values pertaining to different likes (polychlorinated biphenyls (PCB)) under the detection limit will be equal to the detection limit.

(<sup>3</sup>) Determination of contamination sources. When the contamination source is detected, appropriate measures are taken. If possible, the contamination source is reduced or eliminated.

(<sup>4</sup>) When the level specified in some areas is close to or above the intervention level, generally the source of contamination may not need to be investigated. However, in the case where the level of intervention is exceeded, all information related to the sampling period, geographical source, fish species etc. shall be recorded as for the measures to be taken in future in order to control the presence of dioxins and dioxin-like mixtures in these substances.